

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

**Applicants:** Wing K Luk, et al.                      **Examiner:** Bernstein, Allison  
**Serial No.:** 10/735,061                                **Group:** Art Unit 2824  
**Filed:** December 11, 2003                      **Docket:** YOR920030136US1 (8728-621)  
**For:**                      **GATED DIODE MEMORY CELLS**

**Mail Stop AF**  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**PRE-APPEAL BRIEF REQUEST FOR REVIEW**

Examiner:

In response to the Advisory Action dated April 23, 2008, Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request. This request is being filed with a Notice of Appeal and a Pre-Appeal Brief Request For Review Form (PTO/SB/33).

## **REMARKS**

Claims 1-33, 54, 55, and 58 are currently pending in the application, of which Claims 11-33, 54 and 55 stand withdrawn.

Reconsideration of the rejections in view of the remarks is respectfully requested. Only rejections pertinent to independent claims are addressed herein.

### **Claim Rejections - 35 U.S.C. §102**

Claims 1, 2 and 58 have been rejected under 35 USC 102(b) as being anticipated by Houghton et al. (USPN 5,757,693). The Examiner stated essentially that Houghton teaches all of the limitations of Claims 1, 2 and 58.

For a claim to be anticipated under 35 U.S.C. § 102, all elements of the claim must be found in a single prior art reference (see, e.g., *Scripps Clinic & Research Found. v. Genentech Inc.*, 927 F.2d 1565, 1576, 18 U.S.P.Q.2d. 1001, 1010 (Fed. Cir. 1991)). The identical invention must be shown in as complete detail as is contained in the claim. (See MPEP § 2131). The single prior art reference must disclose all of the elements of the claimed invention functioning essentially in the same manner (see, e.g., *Shanklin Corp. v. Springfield Photo Mount Corp.*, 521 F.2d 609 (1st Cir. 1975)).

Here, Applicants respectfully assert that the teachings of Houghton are legally deficient to establish prima facie case of anticipation against the respective rejected claims for at least the following reasons.

Claim 1 claims, inter alia, “a gated diode having a first terminal connected directly to the diffusion region of the at least one transistor and a second terminal connected directly to a read wordline.”

Houghton teaches a gain cell 20 comprising a write transistor Tw0, capacitor C0, storage node SN0, read transistor Tr0, and a diode D0 (see col. 2, lines 30-34 and FIG. 1).

As an initial matter, the rejection of Claim 1 in view of Houghton fails to address the limitation “connected directly to the diffusion region of the at least one transistor.” Houghton specifically teaches that a storage node SN0 intervenes between the transistor Tr0 and transistor Tw0 - which precludes the claimed structure of a direct connection. Thus, Houghton fails to teach “a gated diode having a first terminal connected directly to the diffusion region of the at least one transistor.”

Further, Houghton does not teach “a gated diode having a first terminal connected directly to the diffusion region of the at least one transistor and a second terminal connected directly to a read wordline” as claimed in Claim 1. Houghton teaches that current is gated from BLR0 thru diode D0 and read transistor Tr0 (see FIG. 1 and col. 3, lines 10-11). The Examiner interprets the read transistor Tr0 to be a diode; respectfully, this interpretation has no support in the specification. For example, from FIG. 1, the structure of read transistor Tr0 is clearly that of a transistor - a three terminal device. Indeed, Houghton is clear on the metes and bounds of the terms “diode” and “transistor”, labeling the diode as D0 and the read transistor as Tr0. It is clear from FIG. 1 of Houghton that the diode D0 is connected between a bitline and a transistor. Clearly, Houghton does not teach a diode including a terminal connected directly to a wordline.

For at least the foregoing reasons, there is believed to be clear error in the rejection of Claim 1 based on teachings of Houghton. Claims 2 and 58 depend from Claim 1. The dependent claims are believed to be allowable for at least the reasons given for Claim 1.

Claims 3-10 are rejected as being unpatentable over Houghton in view of Hsu (US 2003/0147277). The Examiner stated essentially that the combined teachings of Houghton and Hsu teach or suggest all the limitations of Claims 3-10.

Claims 3-10 are patentable over the combined teachings of Houghton and Hsu at least by virtue of their dependence from Claim 1. Withdrawal of the rejection is respectfully requested.

For the forgoing reasons, the present application, including Claims 1-33, 54,55 and 58, is believed to be in condition for allowance. Early and favorable reconsideration of the rejections is respectfully urged.

Respectfully submitted,

Dated: May 20, 2008

/Nathaniel T. Wallace/  
Nathaniel T. Wallace  
Reg. No. 48,909  
Attorney for Applicants

**F. CHAU & ASSOCIATES, LLC**  
130 Woodbury Road  
Woodbury, New York 11797  
TEL: (516) 692-8888  
FAX: (516) 692-8889